

# Product Datasheet

## NK1R Antibody NB300-101

Unit Size: 0.1 ml

Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.

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**NB300-101****NK1R Antibody****Product Information**

<b>Unit Size</b>	0.1 ml
<b>Concentration</b>	This product is unpurified. The exact concentration of antibody is not quantifiable.
<b>Storage</b>	Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.
<b>Clonality</b>	Polyclonal
<b>Preservative</b>	No Preservative
<b>Isotype</b>	IgG
<b>Purity</b>	Unpurified
<b>Buffer</b>	Whole antisera

**Product Description**

<b>Host</b>	Rabbit
<b>Gene ID</b>	6869
<b>Gene Symbol</b>	TACR1
<b>Species</b>	Human, Mouse, Rat, Guinea Pig
<b>Reactivity Notes</b>	Immunogen displays the following percentage of sequence identity for non-tested species: canine (92%)
<b>Specificity/Sensitivity</b>	NB300-101 is specific to the NK-1 receptor. Specificity was verified by the localization of immunohistochemical staining with NB300-101 in the neurons of mouse brain tissue.
<b>Immunogen</b>	A synthetic peptide corresponding to the C-terminus of rat Neurokinin 1 Receptor, conjugated to bovine thyroglobulin. [UniProt# P14600]

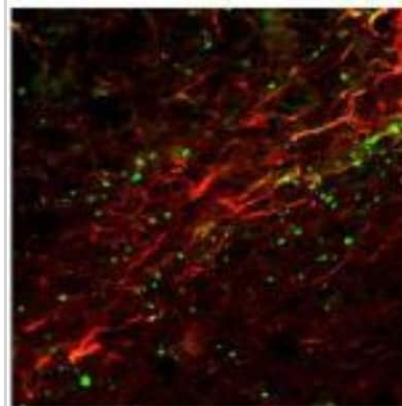
**Product Application Details**

<b>Applications</b>	Western Blot, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin
<b>Recommended Dilutions</b>	Western Blot 1:100-1:2000, Immunohistochemistry 1:1000, Immunocytochemistry/ Immunofluorescence 1:50, Immunohistochemistry-Paraffin reported in scientific literature (PMID 23792204), Immunohistochemistry-Frozen 1:1000

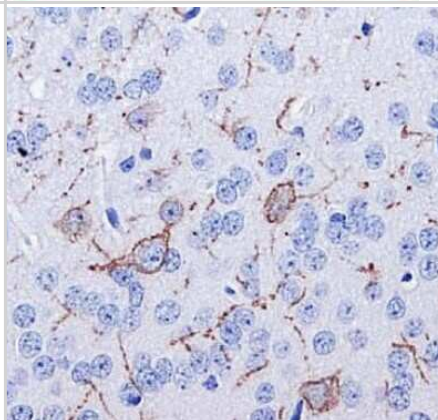


## Images

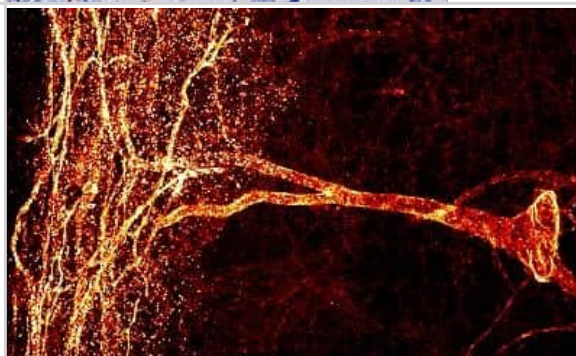
Immunocytochemistry/Immunofluorescence: Neurokinin 1 Receptor Antibody [NB300-101] - IF analysis of Neurokinin 1 Receptor in rat brain tissue. Image courtesy of anonymous customer product review.



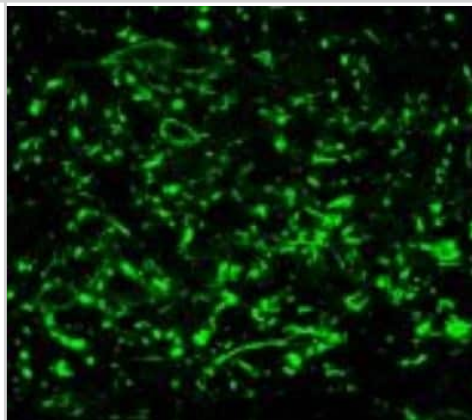
Immunohistochemistry: Neurokinin 1 Receptor Antibody [NB300-101] - Immunohistochemical analysis of Neurokinin 1 Receptor in mouse brain (selected cells, axon & dendrites) using NB300-101.



Immunocytochemistry/Immunofluorescence: Neurokinin 1 Receptor Antibody [NB300-101] - Confocal image of SPR reactivity using polyclonal anti-NK-1 Receptor (NB 300-101) in a lamina III neuron in the spinal cord of a rat.



Immunocytochemistry/Immunofluorescence: Neurokinin 1 Receptor Antibody [NB300-101] - IF analysis of Neurokinin 1 Receptor in rat brain tissue. Image courtesy of anonymous customer product review.



## Publications

Huang R, Worrell J, Garner E, Wang S et Al. Epidural electrical stimulation of the cervical spinal cord opposes opioid-induced respiratory depression J Physiol 2022-05-31 [PMID: 35639046]

JE Lim, E Chung, Y Son A neuropeptide, Substance-P, directly induces tissue-repairing M2 like macrophages by activating the PI3K/Akt/mTOR pathway even in the presence of IFN $\gamma$  Sci Rep, 2017-08-25;7(1):9417. 2017-08-25 [PMID: 28842601]

Cui Y, Wang X, Xu Y et al. Ropivacaine promotes axon regeneration by regulating Nav1.8-mediated macrophage signaling after sciatic nerve injury in rats Anesthesiology 2023-09-05 [PMID: 37669448] (IHC-Fr, Rat)

Lonndahl L, Rasul A, Lonne-Rahm SB et al. Tachykinin upregulation in atopic dermatitis Immunopharmacol Immunotoxicol 2019-02-18 [PMID: 30773959] (IF/IHC, Human)

Li Z, Luo T, Ning X et al. Neurokinin-1 receptor antagonism improves postoperative neurocognitive disorder in mice. Neuroscience Letters 2018-09-01 [PMID: 30273701] (WB, Mouse)

Li X, Guo R, Sun Y et al. Botulinum toxin type A and gabapentin attenuate postoperative pain and NK1 receptor internalization in rats. Neurochem. Int. 2018-03-20 [PMID: 29572051] (ICC/IF, Rat)

Morinaga R, Nakamuta N, Yamamoto Y. Hypoxia-induced increases in serotonin-immunoreactive nerve fibers in the medulla oblongata of the rat. Acta Histochem. 2016-10-01 [PMID: 27825705] (WB, Rat)

Davis BJ, Smith HM. Neurokinin-1 receptor immunoreactivity in the nucleus of the solitary tract in the hamster. Neuroreport 1999-04-06 [PMID: 10321475]

Li W, Fotinos A, Wu Q et al. N-acetyl-L-tryptophan delays disease onset and extends survival in an amyotrophic lateral sclerosis transgenic mouse model. Neurobiol. Dis. 2015-05-16 [PMID: 25986728] (WB, Mouse)

Amadoro G, Pieri M, Ciotti MT et al. Substance P provides neuroprotection in cerebellar granule cells through Akt and MAPK/Erk activation: evidence for the involvement of the delayed rectifier potassium current. Neuropharmacology 2007-05-01 [PMID: 17397881] (Rat)

Broccardo M, Ciotti MT, Linari G et al. Immunocytochemical distribution of NK-1 and NK-3 tachykinin receptors in isolated pancreatic acini of guinea pigs and rats. Peptides 2005-11-01 [PMID: 15970359]

Wu XN, Zhang T, Qian NS et al. Antinociceptive effects of endomorphin-2: Suppression of substance P release in the inflammatory pain model rat Neurochem. Int. 2015-02-07 [PMID: 25661513] (IHC-Fr, Rat)

### Details:

NK1R antibody used for IHC-Fr application on Rat's spinal cord in experiments involving complete Freund's adjuvant/CFA inflammatory pain model - tissues removed after 7 days of CFA injection induced inflammation, paraformaldehyde perfusion, cryoprotection with 30% sucrose -0.1M PBS pH7.4, 10um cryosections, primary used at 1:1000 dilution, detection with FITC-labeled donkey anti-rabbit IgG secondary antibody (Fig. 6G and 6I)

More publications at <http://www.novusbio.com/NB300-101>



## Procedures

### Immunohistochemistry Protocol for Neurokinin 1 Receptor Antibody (NB300-101)

#### Immunohistochemistry

- 1) Perfuse rat through the ascending aorta with 500 ml. of 0.1 M phosphate buffered saline (PBS) (pH 7.4 @ 4 degrees C), followed by 750 ml. of PBS containing 4% formaldehyde and 12.5% picric acid (pH 6.9, 4 degrees C). Tissue of interest is then dissected and post-fixed in PBS containing 4% formaldehyde and 12.5% picric acid (pH 6.9 at 4 degrees C) for at least 4 hours, followed by fixation in PBS containing 30% sucrose (pH 7.4, 4 degrees C) for at least 24 hours. Until the tissue sinks.
- 2) Cut fixed sections at 60 um using a sliding microtome.
- 3) If using culture cells, remove media and perform 2-3 washes in PBS (pH 7.4) -use same protocol without agitation.
- 4) Place tissue section in microcentrifuge tubes containing 1 ml. Of PBS, pH 7.4 as they are being cut. Wash sections (in PBS) on an upright rotator for 10-15 minutes.
- 5) Remove PBS and add 1 ml. of blocking solution (PBS + 1% normal donkey serum (NDS) + 0.3% triton X-100).
- 6) Incubate tissue sections in blocking solution for 30 minutes at room temperature (RT) on rotator.
- 7) Remove blocking solution and add anti-neurokinin-1 receptor or anti-Neurokinin-3 receptor(NB 300-101/NB 100-102) antibody +PBS + 1% NDS + 0.3% triton X-100 + NB 300-101/102 @ 1:100~1:1000
- 8) Incubate overnight on rotator at RT.
- 9) Remove primary antisera and perform 3 x 10 minute PBS washes (1ml volume) on rotator.
- 10) Add 1 ml. of secondary antibody and incubate for 2 hours at RT on rotator.  
-PBS + 1% NDS + 0.3% triton X 100 + anti-rabbit Cy3 (Jackson Immunoresearch Labs) at 1:600
- 11) Perform 3 X 10 minute PBS washes (1 ml volume) on rotator
- 12) Mount tissue sections on gelatin coated slides and allow tissue to dry
- 13) Run slides through alcohol gradients (70%, 90%, 100%, xylene) leaving slide in each alcohol and xylene for 2 minutes
- 14) Coverslip with DPX mountant (FLUKA) \*\* Note: 24 well plates may be substituted for microcentrifuge tubes. Use flat top bench rotator instead of upright rotator.





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### **Products Related to NB300-101**

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NB300-101PEP	NK1R Antibody Blocking Peptide
HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control

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### **Limitations**

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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